

HPCAT Safety Plan

Version 2.0

October 20, 2004

CAT Director: Ho-Kwang Mao

[Signature]

[Date]

HPCAT Safety Plan

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Section 1 CAT Safety Policies

1.0 Purpose

HPCAT is committed to ensuring that all CAT activities are conducted in a safe and environmentally sound manner. This plan describes the CAT's safety program which is implemented to fulfill this commitment

1.1 Scope

To ensure that all CAT activities are conducted in a safe and environmentally sound manner, this plan defines: (1) The standards to be followed by the CAT, and (2) the responsibilities within the CAT organization.

1.2 References

All activities at Argonne National Laboratory - East (ANL-E) will conform to the requirements of the documents listed below, except as provided for by variances or APS procedures. All of the following are available through the CAT Safety Coordinator.

1. ANL-E Environment, Safety and Health Manual
2. APS User Policies and Procedures relating to environment, safety, and health issues
3. ANL-E Hoisting and Rigging Manual
4. ANL-E Transportation Safety Manual
5. ANL-E Waste Handling Procedures Manual

1.3 General Policies

All HPCAT construction and operation activities will be conducted so that effective measures are taken to protect the health and safety of all HPCAT staff, members, users, contractors and the public, as well as to minimize accidental damage to property and the environment. The HPCAT Council and Safety Coordinator fully understand that HPCAT activities at the APS will not be allowed to proceed

if they are considered unsafe or do not comply with established safety procedures. HPCAT will also comply with the requirement of the APS to review and approve the safety aspects of all the experimental programs and activities on the beamlines in advance of their execution.

- 1) Failing to conform to this plan may result in sanctions and/or the loss of access to the APS and CAT facilities.
- 2) Any person has the authority to stop activities that are unsafe or environmentally unsound.
- 3) The CAT will comply with current version of the APS Policy and Procedure for configuration control of shielding systems. No safety system under configuration control is to be modified without CAT and APS approval. (Refer to the APS User Policies and Procedures for the complete policy and procedure).
- 4) The CAT will cooperate with the APS to facilitate the oversight responsibilities of the APS, ANL and the DOE.
- 5) The HP-CAT will implement an experiment safety review program. The program will be kept current with the relevant APS policies and procedures, including those set forth in Technical Updates, User Policies and Procedures, and AOD Division Director memoranda covering the subject.
- 6) Experimenters shall identify to the CAT the potential hazards associated with their activities and hazardous materials to be used in experiments at the APS, and no experiment shall proceed without a CAT approved and posted APS Experiment Safety Approval Form (ESAF).
- 7) New or modified equipment and un-reviewed activities must be approved by the CAT Director, or designee, prior to energizing the equipment or the start of work. Before any change in the CAT's operations that might reasonably be thought to increase the risk of significant adverse impact on the APS facilities, the environment or any person, is begun, the CAT will obtain the written approval of the APS Operations Division Director, or designee.
- 8) The CAT will maintain a list of current safety assignments (Appendix A) and will update this plan to keep it consistent with scope of CAT activities. The assignment list will be reviewed at least annually and the plan biannually with updates provided to the APS Deputy Associate Laboratory Director.

1.4 CAT Specific Procedures and Policies

See Appendix C.

Section 2 - CAT Safety Organization & Responsibilities

The CAT Director has line responsibility for safety for all CAT activities at ANL and for ensuring that this plan is implemented. The Director is also responsible for evaluating and responding in a graded manner to nonconformances with this plan.

The CAT Safety Coordinator reports to the CAT Director and is responsible for implementing and overseeing conformance with this safety plan. The CAT Safety Coordinator is to ensure that the CAT has access to the ANL-E ESH Manual and the other identified standards and to assist CAT members and users in meeting the requirements of these standards.

The CAT Electrical Safety Coordinator is appointed by the CAT Director and is responsible for electrical safety and ensuring compliance with ANL electrical safety standards in all of the CAT's facilities. The Electrical Safety Coordinator is to be aware of ANL ESH Manual defined electrical safety requirements as typically attained through completing ANL electrical safety and LOTO training.

The CAT Chemical Safety Coordinator is appointed by the CAT Director and is responsible for chemical safety, including chemical waste management, and ensuring compliance with ANL and OSHA chemical safety standards in all of the CAT's facilities. The Chemical Safety Coordinator is also responsible for the CAT's proper use of the ANL Chemical Management System. The Chemical Safety Coordinator is to be aware of ANL ESH Manual defined chemical safety requirements.

The CAT Transportation Safety Coordinator is appointed by the CAT Director and is responsible for overseeing the safe transportation of materials to and from the CAT and ensuring compliance with ANL transportation safety standards. The shipping coordinator is to be aware of ANL transportation requirements as well as APS specific shipping and receiving requirements. The Transportation Safety Coordinator will remain current in the APS transportation safety course (ESH387Z, DOT HazMat for APS Small Quantities).

The CAT Laser Control Area Supervisor is appointed by the CAT Director and is responsible for overseeing the safe operation of lasers and ensuring compliance with ANL and OSHA laser safety standards in all of the CAT's facilities. The Laser Control Area Supervisor is to be aware of ANL ESH Manual defined laser safety requirements.

The CAT Experimental Safety Review Coordinator is appointed by the CAT Director and is responsible for conducting hazard evaluations of experimental activities, and specifying required control measures, and approving such activities where specified controls have been implemented.

The CAT Hoisting and Rigging Coordinator is appointed by the CAT Director and is responsible

for the safe operation and maintenance of hoists.

The CAT Lab Coordinator is appointed by and accountable to the HPCAT Director. They are responsible for managing the day-to-day safety concerns in the areas for which they are responsible. Such concerns include:

- ▶ conducting required inspections and tests,
- ▶ arranging for required maintenance and repairs,
- ▶ ensuring that required equipment is available,
- ▶ providing orientations to facilities and procedures,
- ▶ reporting nonconformance with expectations to HPCAT management.

The HPCAT Radiological Sample Coordinator is appointed by and accountable to the HPCAT Director. The person holding this role is responsible for helping HPCAT ensure that researchers understand and comply with applicable HPCAT, APS, and Argonne National Laboratory policies and procedures relating to the management of radioactive materials. The person holding this role is also responsible for:

- ▶ carrying out or arranging for required inspections and tests,
- ▶ serving as the HPCAT point of contact with the APS and ANL personnel responsible for supporting and conducting surveillance of use of radioactive materials,
- ▶ ensuring that required equipment is available,
- ▶ providing orientations to facilities and procedures,
- ▶ reporting nonconformance with expectations to HPCAT management.

Appendix A - Safety Assignments & ESAF Approvers

Appendix A.1 HPCAT Safety Assignments

Date: October 11, 2004

Assignment	Person assigned
CAT Director	Ho-Kwang Mao
CAT Safety Coordinator	Michael Hu
CAT Electrical Safety Coordinator	Eric Rod
CAT Chemical Safety Coordinator	Maddury Somayazulu
CAT Transportation Safety Coordinator	Veronica O'Connor
CAT Laser Control Area Supervisor	Yue Meng
CAT Experimental Safety Review Coordinator	Daniel Häusermann
CAT Hoisting and Rigging Coordinator	Eric Rod
CAT Lab Coordinator	Hans-Peter Liermann
CAT Radiological Sample Coordinator	Daniel Häusermann

Appendix A.2**HPCAT Personnel with Experiment Safety Approval Authority**

As Director of HPCAT, I authorize the following personnel to conduct hazard evaluations of experimental activities, to specify required control measures, and approve such activities where specified controls have been implemented. (Upon updating this form, the CAT will provide a copy of the revised form to the APS Deputy Associate Laboratory Director).

1. Daniel Häusermann
2. Michael Hu
3. Yue Meng

CAT Director: Ho-Kwang Mao

[Signature]

[Date]

Appendix B

Standard Procedures Used by HPCAT

HPCAT has evaluated the hazards that will be encountered in its operations, and, to mitigate these hazards the CAT will follow the unmodified APS Standard Procedures listed below.

Date: July 3, 2002

1. APS User Safety Guide (ANL/APS/TB-23).
2. ANL ES&H Manual.

Appendix C

HPCAT Specific Procedures and Policies

HPCAT has evaluated the hazards that will be encountered in its operations, and, to mitigate these hazards, the CAT has developed and will follow the procedures listed below. The titles of the procedures should be self-explanatory.

1. Operating Procedures for Laser Controlled Areas

HPCAT will comply and uphold the policies as outlined in the APS User Safety Guide (ANL/APS/TB-23) and the ANL ES&H Manual for its personnel and for the user community. All laser users at HPCAT will be required to take the ESH120 Laser Safety course and to have a laser eye exam on file both at HPCAT and at the ANL Medical Department.

2. Storage and handling of radioactive samples:

No high-pressure cells will be loaded with radioactive samples on sector 16. Cells will arrive pre-loaded from the users institution. Containment, transport and local storage will be as per the current regulations in effect.

Two locked and adequately labelled storage cupboards will be used in laboratory "E030 West", one for MBA accountable materials, one for other radioactive samples. Transport of the high-pressure cells from the storage cupboards to the location where the measurements are to be conducted will be carried out according to the current regulations in effect. Should the experimental area be unattended when a high-pressure cell is in place, the station door will be locked using a padlock and chain and the key will be in the possession and under the responsibility of the user team leader.

3. Sector Orientation:

A Sector Specific Orientation will be given to all new users and staff, renewable after two years.